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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,009	10/08/2003	Jae Hyeok Shim	9242-000036	6211
27572	7590	03/21/2006	EXAMINER	
HARNES, DICKEY & PIERCE, P.L.C.			JENKINS, DANIEL J	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	

1742

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/681,009

Applicant(s)

SHIM ET AL.

Examiner

Daniel J. Jenkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 3,785,801 (Benjamin).

Benjamin discloses the invention substantially as claimed at col. 20, line 24 to col. 22, line 62.

Benjamin discloses a method of making a cermet comprising:

- providing a binder metal powder;

- adding a ceramic powder to form a mixture;

- ball milling said mixture to form a fine grain composite powder;

compacting and sintering said composite powder to form a cermet.

Benjamin further discloses wherein the powders are less than 1 μm .

Benjamin further discloses wherein the ceramic powder is selected from TiC and MoC, and provides an example wherein the TiC amount is 50-85%.

Benjamin further provides a teaching that the overall cermet percent overlaps that as claimed by Applicant, establishing a prima facie case of obviousness in regard to this limitation.

Benjamin further discloses wherein the milling is performed in a ball mill with stainless steel powders.

Benjamin further discloses processing conditions that overlap or approximate those as claimed by Applicant, establishing a prima facie case of obviousness in regard to these limitations.

Benjamin further discloses several types of milling apparatus, as further claimed by Applicant, at col. 5, line 6 to col. 6, line 34, and discloses that milling time is calculated based on the selected material and desired microstructure.

However, Benjamin does not disclose measuring the temperature of the milling jar, but monitoring said jar temperature is known in the art in order to avoid volatilization of the milling medium during processing.

4. Claims 9, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin in view of US Pat. No. 5,322,666 (Watwe).

Benjamin discloses the invention substantially as claimed (see paragraph 3 above).

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However, Benjamin does not disclose milling in an argon atmosphere, but performs milling in air (col. 6, lines 23-24).


Watwe teaches to mill TiC containing materials in the presence of argon in order to prevent oxidation of the Ti during processing.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use argon as taught by Watwe in invention of Benjamin when selecting a TiC component in order to prevent oxidation of the Ti.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Jenkins whose telephone number is 571-272-1242. The examiner can normally be reached on M-TH6:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1242. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel J. Jenkins
Primary Examiner
Art Unit 1742

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